

## New *Aphodius* from Texas Gopher Burrows

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(Continued from page 135)

Holotype, 27 November 1942, and allotype, 22 November 1942, Somerset, TEXAS, in bait traps set in gopher burrows (A. J. Kirn). Four paratypes, 17 November 1942 to January 1943, otherwise same data, vary from 5.6 to 6 mm. in length, and 2.7 to 3 mm. in width. In two cases the coarse punctures cover almost all of the pronotum, being only somewhat less numerous antero-medially.

*Aphodius acuminatus* belongs in the subgenus *Platyderides* but is not closely allied to any of the known species in this group. It is distinguished at once by the strongly arcuate and apically pointed elytra. The species is unusual also in having basal marginal line except at the sides and hind angles, and in having a heavily punctate pronotum combined with minute punctuation on elytral intervals.

### *Aphodius sepultus* new species

Holotype male.—Length 3.0 mm., width 1.3 mm. Moderately elongate, feebly shining, pubescent, dark brown, with lateral margins of pronotum, clypeus, and legs paler. Head slightly convex, closely moderately granulate throughout, alutaceous between the granules. Clypeus widely feebly emarginate, broadly rounded and slightly reflexed each side, genae moderately prominent. Pronotum convex, nearly three-fourths as long as wide, sides feebly arcuate, a little narrower in front, hind angles well defined, base feebly sinuate, finely margined, disc closely, shallowly, coarsely, setigerously punctate, the setae decurved. Elytra five-sevenths as wide as long, narrower at base than thorax, slightly wider posteriorly, striae geminate, moderately deep, feebly crenate, finely not closely punctate; intervals slightly convex, alutaceous, each with a double row of

close, shallow, coarse, setigerous punctures, the decurved setae arising immediately behind small granules which cause the surface to appear submuricate. Mesosternum finely alutaceous, not carinate between the coxae. Metasternum strongly alutaceous and opaque except for a small flattened to depressed shining medial area having scattered shallow punctures and much finer alutaceous sculpture. Abdominal segments finely alutaceous and with scattered very shallow setigerous punctures. Tridentate anterior tibiae serrulate above the teeth, the first tarsal joint shorter than the second, the spur stout and slightly decurved. Short spur of middle tibiae less than half the length of the long spur, its tip obliquely truncate and with a small fine tooth on inner side. Middle and hind femurs with scattered fine setigerous punctures. Posterior tibiae fimbriate with unequal spinules, first tarsal joint longer than the next two combined.

Allotype female.—Length 3.25 mm., width 1.25 mm. Similar to male except that the short spur of the middle tibia is normal and is more than half the length of the long spur.

Holotype and allotype, Somerset, TEXAS, 3 January 1943, four feet below surface, in nest chamber of the gopher, *Geomys brevipes atwateri* Merriam (Ross and Kirn). Two hundred eighty-two paratypes from same locality, taken between 18 November 1942 and 6 January 1943, at bait traps, in refuse and dung chambers, and in nest chamber by same collectors. Paratypes vary in length from 2.6 to 3.6 mm. and in width from 1.2 to 1.5 mm.

*Aphodius sepultus* may be placed in Horn's group H following *stupidus* Horn. It differs from all others in the group by having very noticeable recurved hair on the thorax as well as on the elytra, and by the unusual twinning or doubling of the elytral striae.

#### **Aphodius captivus** new species

Holotype male.—Length 5.25 mm., width 2.55 mm. Moderately elongate, shining, head and thorax piceous with pale outer

margins, elytra and legs rufotestaceous. Head finely, quite closely punctate throughout, without tubercles; clypeus broadly not deeply emarginate, rounded each side; genae fimbriate, angulate, only moderately prominent. Pronotum two-thirds as long as wide, sides rounded, converging anteriorly from posterior third, broadly explanate, depressed in posterior angles, angles obtusely rounded, base strongly sinuate each side and without marginal line; punctuation fine and moderately close medially, intermixed with coarse punctures laterally, the coarse punctures becoming very close and dense above the depression in posterior angles. Elytra twice as long and narrower at base than pronotum, sides evenly arcuate, finely not deeply striate, striae crenately punctate; intervals wide, nearly flat, with moderately close fine scattered punctures. Mesosternum not carinate, surface alutaceous medially, coarsely shallowly punctate laterally. Metasternum with median flattened area shining, finely closely punctate, laterally alutaceous with shallow setigerous punctures. Abdominal segments alutaceous and with numerous scattered punctures bearing very fine hair. Anterior tibiae smooth in front, tridentate, crenulate above the teeth; spur heavy, acute, decurved; first tarsal joint shorter than the second. Middle and posterior femurs with scattered very fine punctures and a row of moderately spaced punctures from knee to trochanter. Short spur of middle tibiae less than half the length of long spur, blunt, and bearing a small denticle on under side at tip. Posterior tibiae fringed with unequal spinules, the first tarsal joint as long as the next three together.

Allotype female.—Length 5.7 mm., width 2.85 mm. Very similar to male except that the anterior tibial spur is not quite as heavy and the shorter spur of the middle tibiae is more than half as long as the long spur, which in turn is subequal in length to the first tarsal joint.

Holotype and allotype, Somerset, TEXAS, 22 November 1942, under nest two feet below surface (E. S. Ross). Twenty paratypes vary in length from 4.8 to 6 mm., and from 2.4 to 3 mm. in width. A few specimens show a very slight angulation in the lateral edge of the pronotum at the posterior third. The

specimens were collected between November 22 and 30, 1942, under a nest two feet below the surface and in bait traps set in the burrows.

*Aphodius captivus* very closely resembles *umbricollis* Fall in size and color but differs in several ways. Viewed from the side, the elytra of *captivus* are less evenly convex than in *umbricollis* which does not curve downward so suddenly at the apex. *A. umbricollis* does not have the patch of densely placed coarse punctures at the posterior angles of the pronotum. The punctures of the intervals of the elytra are much finer in *umbricollis*, the spurs of the middle tibiae are longer and more slender, the long spur being longer than the first tarsal joint. Mr. Banks states that in the type of *umbricollis*, a female, the middle tibiae have fairly long erect or nearly erect hairs on the inner and outer sides in addition to the usual bristles; these are not seen in *captivus*.

#### ***Aphodius atwateri* new species**

Holotype male.—Length 5.5 mm., width 2.7 mm. Oblong, moderately convex and elongate, shining, rufotestaceous, with the head, pronotum, and tibiae slightly darker than the elytra. Head finely closely punctate throughout, without tubercles. Clypeus broadly not deeply emarginate, rounded each side; genae fimbriate, angulate, moderately prominent. Pronotum two-thirds as long as wide; sides feebly arcuate, converging anteriorly from posterior third, finely margined, weakly explanate, depressed in posterior angles, all angles obtuse, broadly rounded; base arcuate, sinuate each side and without marginal line; punctuation fine and moderately close medially, intermixed with coarse punctures at sides and base, dense and confluent in posterior angles to well separated in anterior angles and scattered across the base. Elytra two and one-third times as long as pronotum, base narrower than pronotum; sides feebly arcuate, humeri obtuse; striae moderately deep, finely closely, crenately punctate; intervals feebly convex, with moderately close fine punctures more or less scattered in two irregular rows. Meso-

sternum not carinate, alutaceous medially. Metasternum minutely alutaceous, moderately fine and close punctures at middle, close shallow setigerous punctures at sides. Abdominal segments alutaceous, finely, setigerously punctate. Anterior tibiae smooth in front, strongly tridentate, serrate above the teeth, spur moderately heavy, acute, decurved, first tarsal joint shorter than the second. Middle and posterior femurs with scattered fine punctures, three coarse setigerous punctures at knee, and scattered more finely setigerous punctures along posterior edge. Short spur of middle tibiae less than half the length of the long spur, a small denticle on under side at tip. Posterior tibiae fringed with unequal spinules, the first tarsal joint as long as next three together.

Allotype female.—Length 5.8 mm., width 2.7 mm. Very similar to male except that the anterior spur is more slender and acute, and the short spur of the middle tibiae is more than half the length of the long spur.

Holotype male taken in sand under nest two feet below the surface, Somerset, TEXAS, 22 November 1942 (E. S. Ross). Allotype collected in bait trap, 17 November 1942 (A. J. Kirn). Twelve paratypes vary in length from 4.9 mm. to 6.3 mm., and in width from 2.4 to 3.0 mm. The fine punctures of the head and thorax become so fine in some individuals as to be practically imperceptible over the middle of the pronotum and the anterior of the clypeus. The specimens were taken in bait traps and in nest chambers from two to five feet below the surface.

*Aphodius atwateri* should be placed in the subgenus *Platyderides* where it will key to *Aphodius oklahomensis* Brown which it resembles closely. It differs by being lighter in color, smaller in size, and in having less widely explanate pronotal side margins.

#### *Aphodius peculiarus* Schmidt

Eleven specimens of *Aphodius peculiarus* Schmidt (*longitarsus* Fall) were taken between 18 November 1942 and 6 December 1942 in bait traps set in the burrows of the gopher.